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An
Argos Specialist Publication

BEST
FOR SOFTWARE
EVERY WEEK

Computing WEEKLY

September 13-19, 1983

No. 28

36p

FREE: A&F software worth £1,000 must be won

Great games to type in for Spectrum and TI-99/4A

Software reviews for: TI-99/4A, Spectrum, BBC, Atari, Oric, Commodore 64, Dragon

Programming advice for VIC-20, Commodore 64 and Oric

COMING SOON

THE HOBBIT

This incredible adventure game will soon be available for the Oric. Price £14.95 post free. Order now for delivery in late September.

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Share in Sinclair next year

Sinclair Research has challenged (10m profit) — and you could soon be at the top of the share

The company, makers of the highly successful Spectrum and ZX81 computers, doubled its turnover in the year ended in March to £33.94

It means that earnings per share — though an 18p each trying to make the price rise — are £2.01 against £1.66 the previous year

Sinclair's spectacular Rise Continued on page 3

Christmas brings lots of software

Software is beginning to flood in to the shops ready for what is being predicted as the biggest ever Christmas for home computing

Atari Computing has just announced its top 100 new titles, due out in a week. And newcomer Virgin Games has brought out its second batch of eight games

Atari's managing director, Richard Turner, believes it is going to be the biggest Christmas for computing since he set up the company three years ago

He had the 21 new programs — bringing the range up to 62 — were his largest launch to date and

Continued on page 3



COMING SOON

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Continued from page 100

were the result of a successful attempt to freebase programmers.

Typical priced at £5.95, there are five for the VIC-20, one for the Cric, £6.95 for the Spectrum and five for the ZX81.

Artic has also become the distributor for educational software from Arnold Whinnies. There are no titles for the Spectrum and BBC micro costing £13.95 each.

Vogel's new titles, priced at £5.95 and £6.95, are two each for the Spectrum and the VIC-20, three for the Dragon and one for the Cric.

And the company has brought a double device that promotes its products. Potted out with 12 computerised learning programmes to answer queries, it will tour the country from October to Christmas.

Many of the new games are also entered in a draw for six prizes of days out, plus posters and T-shirts.

Arlec Computers, Main Street, Newbury, Oxfordshire, RG13 2AG

Vogel Games, 61/63, Finsbury Road, London EC2P 1JD

• • •

Copy that screen — in colour

Good news for Spectrum owners — now you can see the GraphiCOP-015 four colour printer plotted on your screen.

Some months ago, Software brought out an interface which linked the GraphiCOP-015 printers. The GraphiCOP-015 is a plain paper printer which uses four coloured pens to produce text in a wide range of sizes. It can also be used to plot a 42 x 60 inch per square inch resolution and 75 lines per inch vertically.

The only drawback was that the printer couldn't be used for producing screen dumps. Now, it's all thanks to a new screen-dump program developed by Software for the Spectrum.

The program costs £1, and the screen dump costs £20.

Software, 10 Redwood Lane, Romsey, Hants SO2 6L4

Home Computing WEEKLY

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SOFTWARE SUPERMARKET



• All these computers — and more — are featured in the best of Home Computing Weekly

Continued from front page

Nichols said a dividend of 10 pence was being recommended to the annual meeting.

The bulk of the profits would be reserved in the company. This infuriates the miners, who feel the Cheb Standard could claim a share of more of the dividend shares.

Last year's profits were £8.5m and trading this year is so far "better than good".

City observers have been examining Sinclair's figures with the aim of assessing cash troubles which have hit Dragon and Grundy, makers of the Newslinemaster.

However, it has been pointed out that the Sinclair figures are dated March 30 — before the round of wage-cutting in the UK and, more heavily, in America.

Although U.S. accounts of the Spectrum and ZX80 are now on sale in America, Sinclair embargoed them from the press two three months' time, selling them under license, says a company spokesman.

Sinclair expects less than was anticipated.

Next year the company plans to make shares more widely available. Present shareholders bought them through a private placing by a merchant bank.

A public offer of more shares would be made either on the London Securities or a full launch on the Stock Exchange.

£2½m more to help the Dragon

Banks and shareholders have subscribed £2½ million to Dragon Data to ease the company's cash crisis.

The problem was brought on by the calendar sales drop, and marketing director Richard Woodman. However, he said, Dragon had held its market share at No. 2 in sales and expected to hit an sales of 31,000 in the September-December period compared with the same months last year.

By the end of this month a £400,000 model would be on sale. As reported in HCN, an American company is to build the Dragon in the U.S. And the prospect for Europe looked healthy with distributors being secured.

Dragon Data, based in West Glamorgan, is 42 per cent owned by Protosix — the new technology financing arm of the Prudential insurance company — 22 per cent by the Welsh Development Agency, 15 per cent by Mettoy and 2½ per cent by the National Water Council.

As a further financial problem, Mettoy sold more of its interest in Protosix.

A new deal executive is reported to be expected soon from GEC. At present the acting chief executive is Derek Morgan, vice chairman, who is with P.A. Management Consultants whose research centre designed the Dragon.

Dragon's disc drive has just been launched at £275. It has a claimed storage of 1MB on a single-sided double density 5¼" disc. Another half-height drive can also fit into the case and two double units can be fitted.

Dragon Data, Knight Industrial Place, Morgan, Port Talbot, West Glamorgan

Wordsworth on disc

The Wordsworth word processing package for the 8086, which has been out for several months on cassette, has now made its disc debut.

Author Ian Copeland reckons that it has several advantages — apart from its most obvious one of price — over its 8086-based rivals.

Unlike Wordstar, you can make multiple copies (500, in fact) of your documents — whether it's an address label or a letter. And unlike VIDEA, you don't have to save the documents before you can print it out.

Probably the biggest plus factor is that it runs up most of the computer's memory, and the disc version takes up more room than the tape. You can store about two A4 pages in second memory after the program has been loaded.

On the other hand, with the rapid access of a disc drive, lack of internal storage space probably won't bother you too much.

The disc Wordsworth costs £19.95, as opposed to £17.25 for the tape.

Ian Copeland, 21 Cornhill Green, Broomfield, Hoking, Surrey GU10 5BN

96K Lynx on the prowl

Now 96K Lynxes are beginning to prowl the high streets with Lynx selling the computer at 50 of its Microprint stores.

And three large distributors will soon be offering it too. The 96K model costs £299 and owners of the 48K version can return them to dealers for an upgrade costing £29.95. Cammerton, 1114 George Street, Cambridge CB2 3AH

New way to link up a printer

If you're not too keen on a 4-pin dot-matrix type printer to a Spectrum or a ZX printer to a Jupiter Ace or 8086, Micro, Advanced Digital Systems has the intention to let you do it.

Its 4-pin dot-matrix interface can be used to produce plain paper postscript output from £4,500. Not only will it work with the Spectrum, but a change of software lets it link up to the ZX81. The fact for addition of a ZX adapter card converts it to work with the Jupiter Ace. The interface will cost £150.

A package including the user adapter card and software enables the ZX printer to be linked to the Ace. There are two versions of the software — one will run on the unexpanded Ace but will not deal with graphics or user-defined characters. The second version, for the expanded Ace, will handle all characters. The whole package costs £140.

Another kit of adapter and software will let you connect your BBC micro to the ZX Printer.

and is expected to cost around £15. Advanced Digital Systems, Technical Services Unit. "We're the first to admit that the ZX printer is not exactly word processor quality, but for letters it's ideal. Our adapter must be the cheapest price we've printed on the BBC."

Advanced Digital Systems, 9 Southchurch Road, Portsmouth, Hants PO4 5BA

Make a studio date

Central TV is looking for young people to form the studio audience for a new-part series on computers. Recordings will take place in Birmingham on the 16th and 17th of next month and November 3 and 7. Applicants should say which date they prefer, send their names and an address and a note from parent or guardian giving consent to it send.

Write (do not phone) Geoffrey Hayes, Central TV, Broad St, Birmingham B1 1DT

You could be on our pages

We welcome program articles and tips from our readers.

PROGRAMS should, if possible, be computer printed to a width of 80 characters (use a new ribbon and/or set on cassette. Check carefully that they are bug-free. Include details of what your program does, how it works, variables you have used and hints on conversion.

ARTICLES on using home computers should be no longer than 2,000 words. Don't worry about your writing ability — just try to keep to the style in HCN. Articles most likely to be published will help our readers make better use of their micro by giving useful ideas, possibly with programming examples. We will convert any sketched illustrations into finished artwork.

TIPS are short articles, and brief programming routines which we can put together with others. Your hints can aid other computer users.

Competitive rates are paid.

Keep a copy of your submissions and include an SAE if you want them returned. Label everything clearly and give a daytime and home phone number if you can.

Paul Lightfoot, Home Computing Weekly, 185 Charing Cross Road, London WC2N 6BS

40 chances to win in our great



WE'VE got £3,000-worth of great A&P software waiting to be won. And this is a competition in which everyone who enters stands to gain.

It's free, easy to enter and you have got 40 chances to win £25-worth of software for Spectrum or BBC computers.

You have probably seen A&P's range of software in shops throughout the country. Now A&P has released two new tapes guaranteed to give the family hours of fun.

So we have decided to have the competition on these two new titles: **Chuckle Egg** and **Cylon Attack**.

All you have to do to make us aware words as you can from the 21 letters at these two titles, without using the letters more often than they appear on the four wheels.

Your total number of words — including the original four — must be written in large figures on the back of your envelope. And all the words you make up must be given to us.

■ **Cylon Attack**, for the 128 BBC micro, puts you in the pilot's seat for a fast-moving 3D space battle, complete with stunning graphics and sound.

■ **Chuckle Egg**, which runs on the 48k Spectrum, features a chubbey little character who has to collect eggs by running up ladders and along platforms and using lifts. But he has to avoid the machines and a crazy dive-bombing duck.

The prizes

Winners with 48k Spectrums will receive a package of software worth about £25 taken from the following A&P titles:

Jungle Fever Printer Frogger	Cross Buttons Chuckle Egg
------------------------------------	------------------------------

And winners who own BBC micros with 128 of RAM will get a selection also worth about £25, from these programs:

Shrinking Professor Horse Castle Bouncer Puzzle	Frogger Planets Puzzle Cylon Attack
--	--

And, as we promised, every entrant stands to benefit in this A&P competition. All will receive a 10per cent discount voucher from A&P for any software ordered direct from the company. The vouchers will not be accepted in shops.

How to enter

Make as many words as you can from the letters in these four words: **Cylon Attack** **Chuckle Egg**. The letters may not appear more often than they appear in these words.

Write them in the space provided in the coupon — attaching it to a sheet of plain paper if you need more room. Fill in the rest of the coupon, including the words Spectrum or BBC, depending on which set of prizes you would like.

Your words must be given to The Oxford Paperback Dictionary Dept only, 1980.

And you must write in large figures on the back of the envelope the number of words you have made, including the original four. Copies of the results will also be accepted.

Entries which do not meet these conditions will not be considered.

You have got until first post on Friday September 30, 1983 to get your entry to us and the results will be published in the next column of Home Computing Weekly.

You may enter in many times as you wish provided each entry is on an original coupon and so on its own envelope.

The winning entries will be the first 40 drawn with the greatest number of words. They will be checked against The Oxford Paperback Dictionary (2nd edition, 1983).

£1,000 competition

The prizes and vouchers will arrive from A&P within 28 days of the publication of the results.

The small print

The first 40 winners, opened with the greatest number of words will be the winners. There will be prizes in more on Friday September 30, 1983.

Coupons which are not fully and legally completed and forwarded within the number of words made on the back will not be considered.

Entries will not be accepted from employees of Angus Saunders Publications, A&P staff and all other persons connected with the company who employ in employee, family and agency of the company.

The sports will appear in Home Computing Weekly. The subject's decision is final and no correspondence will be entered into.

A&P Competition Entry Coupon

Name

Address

Computer

Your words

Games

THE AMAZING ADVENTURES OF THE LAUGHING SHARK

PART ONE

GSAT



THE LAUGHING SHARK DECIDED TO GO TO THE SURFACE ONLY TO FIND HE WASN'T IN THE SUNNY PACIFIC - BUT IN THE DARK MURRY HOAT OF THE



CASTLE ADVENTURE
WITH A THOUSAND BURMESE BATTLE-ACCOMPAINED BY THE MAD ORGANIST-PELLETS OUT ALL THE STONE



ESCAPING THE DEADLY SOUND OF MUSIC, THE LAUGHING SHARK MANFULLY AVOIDED A CAUSE LIMER (WILL A HOAT?)



PASSING A PORTHOLE HE ESPYED NASTY DA BUSTERS PLANTING A BOMB. STOP HIM SOMEONE - OR THIS COULD TURN INTO A **DEATH CRUISE !!**



NOT WISHING TO SUFFER THE SAME FATE AS HIS COUSIN JAWS, OUR HERO DECIDED TO CONSULT THE ORACLE OF **CHING**



THE 4000 YEAR OLD CHINESE ART OF THE HEXAGRAM - WITH ITS KEY TO FUTURE AND THE HIDDEN OF LIFE



OVERFLOWING WITH NEWLY FOUND SELF-CONFIDENCE, LAUGHING BOY FELT READY TO HELP PROF BATTY SOLVE THE PROBLEM OF **LOJIX** AND FIT THE SHAPES



INTO THE BOLD, IF HE HADN'T TO SOLVE IT, YOU COULD WIN THE LOTIX POT OF SILVER



DIZZY FROM HAVING TO USE HIS LITTLE FISHY BRAIN OUR WREATHEN CHARACTERS GOT LOST AND FOUND HIMSELF IN THE DARK DEPTHS OF **KILLER CAVERNS**



WITH ITS HORDES OF TREASURE AND DEADLY SHARKS... TOO MUCH EVEN FOR A SUPER PSY TO BE HOPPED ON A BUS

How it works

40-49 up to 100 variables
40 programs to use 1 randomly
randomly draw
20 lines
240-255 background color
260-270 background color
280-290 background color
290-300 background color
310-320 background color
330-340 background color
350-360 background color
370-380 background color
390-400 background color
410-420 background color
430-440 background color
450-460 background color
470-480 background color
490-500 background color

My Artist program will allow you to draw on a VIC-20, and will be loaded on tape for further use.

When first run, the program will ask for a border color. You respond by pressing one of the color keys in the top left of the keyboard. The background color that is chosen is a number 1-10.

The third screen is for graphics or keyboard use, using one-hand Artist or Commodore graphics, with eight direction movement. Keyboard controls are four directional, as follows:

Function key 1 up
Function key 2 down
Left arrow left
Right arrow right

To draw lines with the joystick press fire, and with keyboard press 1, 2, 3, 4, 5, 6, 7, 8, 9, 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 0.

When all options have been decided, the screen will go blank apart from eight colored squares in the top left corner, some words at the top right, and a flashing cross. The cross shows you your position on the screen.

If the cross is moved on to the top line you have 40 lines to draw. When you draw

Just picture it — on your VIC

Is there an artist in you trying to get out? Mike Roberts' program for the unexpanded VIC-20 will make you quick on the draw

```

1000  REM *****
1010  REM *****
1020  REM *****
1030  REM *****
1040  REM *****
1050  REM *****
1060  REM *****
1070  REM *****
1080  REM *****
1090  REM *****
1100  REM *****
1110  REM *****
1120  REM *****
1130  REM *****
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1160  REM *****
1170  REM *****
1180  REM *****
1190  REM *****
1200  REM *****
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1970  REM *****
1980  REM *****
1990  REM *****
2000  REM *****

```

Variables

40 screen start location
41 screen end location
42 screen start location
43 screen start location
44 V position of cross
45 screen start location
46 screen start location
47 screen start location
48 screen start location
49 screen start location
50 screen start location
51 screen start location
52 screen start location
53 screen start location
54 screen start location
55 screen start location
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197 screen start location
198 screen start location
199 screen start location
200 screen start location

selected one of the first items then you will move to the line below.

The first function is a colour change. When you position the cross on one of the coloured squares and press the down button (fire on which one) that becomes the colour that you are drawing in.

The second function is SAVE. To save a picture you move the cross on to the word SAVE in the top of the screen and press the down button. A warning area will then go off, and if the button is then released nothing will happen.

One of the draw function is tape depressed, then instructions will follow in the top of the screen as to when saving a BASIC program.

The third function, LOAD, is identical in operation to SAVE and has the same instructions.

At start up, the default colour is black, and the shape that is printed on the screen is a simple cross character.

The character that is to be printed on the screen is shown at the top right hand corner of the screen. It can be changed at any time by just pressing the appropriate key on the keyboard, and the top right character will then change.

To access reverse field characters CTRL-RWS can be used just to moving the desired character, and CTRL-RWS will afterwards

400 screen start location
410 screen start location
420 screen start location
430 screen start location
440 screen start location
450 screen start location
460 screen start location
470 screen start location
480 screen start location
490 screen start location
500 screen start location
510 screen start location
520 screen start location
530 screen start location
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990 screen start location
1000 screen start location

400 screen start location

400 screen start location

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400 screen start location

Buck's turned nasty — he's out to flatten your city

Buck Rodgers seems to have gone over to the enemy. Type Sandy MacLennan's program into your Spectrum quickly, before innocent cities are blasted out of existence



Here comes Buck, swooping in over your city — what the screen looks like when you play Colonel Buck.

How to make

1. If you are using different patches or ports, adjust the GOSUB line to suit. Add to suit, or omit 25-26 to fit your drive and cassette format.
2. If you have more than one drive, add to the listing to suit.
3. If you have more than one drive, add to the listing to suit.
4. If you have more than one drive, add to the listing to suit.
5. If you have more than one drive, add to the listing to suit.
6. If you have more than one drive, add to the listing to suit.
7. If you have more than one drive, add to the listing to suit.
8. If you have more than one drive, add to the listing to suit.
9. If you have more than one drive, add to the listing to suit.
10. If you have more than one drive, add to the listing to suit.

Colonel Attack is for anyone who can't stand Buck Rodgers — now you have a chance to shoot him down.

After you have chosen your gun — displayed as a pearl — a city becomes visible and Buck will soon fly out from the top of the screen.

He might not be visible at this stage, but when he starts again the next will start to come down and target lines will appear.

Variables

BU: Buck's time
BU: Buck's time
BU: Buck's time
BU: Buck's time
BU: Buck's time
BU: Buck's time
BU: Buck's time
BU: Buck's time
BU: Buck's time
BU: Buck's time

```

100 TO 10
2 FOR I=1 TO 100
3 FOR J=1 TO 100
4 FOR K=1 TO 100
5 FOR L=1 TO 100
6 FOR M=1 TO 100
7 FOR N=1 TO 100
8 FOR O=1 TO 100
9 FOR P=1 TO 100
10 FOR Q=1 TO 100
11 FOR R=1 TO 100
12 FOR S=1 TO 100
13 FOR T=1 TO 100
14 FOR U=1 TO 100
15 FOR V=1 TO 100
16 FOR W=1 TO 100
17 FOR X=1 TO 100
18 FOR Y=1 TO 100
19 FOR Z=1 TO 100
20 FOR AA=1 TO 100
21 FOR BB=1 TO 100
22 FOR CC=1 TO 100
23 FOR DD=1 TO 100
24 FOR EE=1 TO 100
25 FOR FF=1 TO 100
26 FOR GG=1 TO 100
27 FOR HH=1 TO 100
28 FOR II=1 TO 100
29 FOR JJ=1 TO 100
30 FOR KK=1 TO 100
31 FOR LL=1 TO 100
32 FOR MM=1 TO 100
33 FOR NN=1 TO 100
34 FOR OO=1 TO 100
35 FOR PP=1 TO 100
36 FOR QQ=1 TO 100
37 FOR RR=1 TO 100
38 FOR SS=1 TO 100
39 FOR TT=1 TO 100
40 FOR UU=1 TO 100
41 FOR VV=1 TO 100
42 FOR WW=1 TO 100
43 FOR XX=1 TO 100
44 FOR YY=1 TO 100
45 FOR ZZ=1 TO 100
46 FOR AA=1 TO 100
47 FOR BB=1 TO 100
48 FOR CC=1 TO 100
49 FOR DD=1 TO 100
50 FOR EE=1 TO 100
51 FOR FF=1 TO 100
52 FOR GG=1 TO 100
53 FOR HH=1 TO 100
54 FOR II=1 TO 100
55 FOR JJ=1 TO 100
56 FOR KK=1 TO 100
57 FOR LL=1 TO 100
58 FOR MM=1 TO 100
59 FOR NN=1 TO 100
60 FOR OO=1 TO 100
61 FOR PP=1 TO 100
62 FOR QQ=1 TO 100
63 FOR RR=1 TO 100
64 FOR SS=1 TO 100
65 FOR TT=1 TO 100
66 FOR UU=1 TO 100
67 FOR VV=1 TO 100
68 FOR WW=1 TO 100
69 FOR XX=1 TO 100
70 FOR YY=1 TO 100
71 FOR ZZ=1 TO 100
72 FOR AA=1 TO 100
73 FOR BB=1 TO 100
74 FOR CC=1 TO 100
75 FOR DD=1 TO 100
76 FOR EE=1 TO 100
77 FOR FF=1 TO 100
78 FOR GG=1 TO 100
79 FOR HH=1 TO 100
80 FOR II=1 TO 100
81 FOR JJ=1 TO 100
82 FOR KK=1 TO 100
83 FOR LL=1 TO 100
84 FOR MM=1 TO 100
85 FOR NN=1 TO 100
86 FOR OO=1 TO 100
87 FOR PP=1 TO 100
88 FOR QQ=1 TO 100
89 FOR RR=1 TO 100
90 FOR SS=1 TO 100
91 FOR TT=1 TO 100
92 FOR UU=1 TO 100
93 FOR VV=1 TO 100
94 FOR WW=1 TO 100
95 FOR XX=1 TO 100
96 FOR YY=1 TO 100
97 FOR ZZ=1 TO 100
98 FOR AA=1 TO 100
99 FOR BB=1 TO 100
100 FOR CC=1 TO 100

```

```

100 TO 10
2 FOR I=1 TO 100
3 FOR J=1 TO 100
4 FOR K=1 TO 100
5 FOR L=1 TO 100
6 FOR M=1 TO 100
7 FOR N=1 TO 100
8 FOR O=1 TO 100
9 FOR P=1 TO 100
10 FOR Q=1 TO 100
11 FOR R=1 TO 100
12 FOR S=1 TO 100
13 FOR T=1 TO 100
14 FOR U=1 TO 100
15 FOR V=1 TO 100
16 FOR W=1 TO 100
17 FOR X=1 TO 100
18 FOR Y=1 TO 100
19 FOR Z=1 TO 100
20 FOR AA=1 TO 100
21 FOR BB=1 TO 100
22 FOR CC=1 TO 100
23 FOR DD=1 TO 100
24 FOR EE=1 TO 100
25 FOR FF=1 TO 100
26 FOR GG=1 TO 100
27 FOR HH=1 TO 100
28 FOR II=1 TO 100
29 FOR JJ=1 TO 100
30 FOR KK=1 TO 100
31 FOR LL=1 TO 100
32 FOR MM=1 TO 100
33 FOR NN=1 TO 100
34 FOR OO=1 TO 100
35 FOR PP=1 TO 100
36 FOR QQ=1 TO 100
37 FOR RR=1 TO 100
38 FOR SS=1 TO 100
39 FOR TT=1 TO 100
40 FOR UU=1 TO 100
41 FOR VV=1 TO 100
42 FOR WW=1 TO 100
43 FOR XX=1 TO 100
44 FOR YY=1 TO 100
45 FOR ZZ=1 TO 100
46 FOR AA=1 TO 100
47 FOR BB=1 TO 100
48 FOR CC=1 TO 100
49 FOR DD=1 TO 100
50 FOR EE=1 TO 100
51 FOR FF=1 TO 100
52 FOR GG=1 TO 100
53 FOR HH=1 TO 100
54 FOR II=1 TO 100
55 FOR JJ=1 TO 100
56 FOR KK=1 TO 100
57 FOR LL=1 TO 100
58 FOR MM=1 TO 100
59 FOR NN=1 TO 100
60 FOR OO=1 TO 100
61 FOR PP=1 TO 100
62 FOR QQ=1 TO 100
63 FOR RR=1 TO 100
64 FOR SS=1 TO 100
65 FOR TT=1 TO 100
66 FOR UU=1 TO 100
67 FOR VV=1 TO 100
68 FOR WW=1 TO 100
69 FOR XX=1 TO 100
70 FOR YY=1 TO 100
71 FOR ZZ=1 TO 100
72 FOR AA=1 TO 100
73 FOR BB=1 TO 100
74 FOR CC=1 TO 100
75 FOR DD=1 TO 100
76 FOR EE=1 TO 100
77 FOR FF=1 TO 100
78 FOR GG=1 TO 100
79 FOR HH=1 TO 100
80 FOR II=1 TO 100
81 FOR JJ=1 TO 100
82 FOR KK=1 TO 100
83 FOR LL=1 TO 100
84 FOR MM=1 TO 100
85 FOR NN=1 TO 100
86 FOR OO=1 TO 100
87 FOR PP=1 TO 100
88 FOR QQ=1 TO 100
89 FOR RR=1 TO 100
90 FOR SS=1 TO 100
91 FOR TT=1 TO 100
92 FOR UU=1 TO 100
93 FOR VV=1 TO 100
94 FOR WW=1 TO 100
95 FOR XX=1 TO 100
96 FOR YY=1 TO 100
97 FOR ZZ=1 TO 100
98 FOR AA=1 TO 100
99 FOR BB=1 TO 100
100 FOR CC=1 TO 100

```

Buck moves randomly across the screen, but you can bring him into your line of fire by using the right and left cursor keys. Your fire button is the drive cancel key.

Every time you destroy Buck your main time is reduced by one. If you manage this within 100 per cent of your time, then your time for the next game is halved.

Buck destroyed craft costs you 100 points, plus the unmet amount of time. A negative score is deducted from your score.

When your time is down to 25 you will gain an extra time and this will be identified by a BEEP.

Although the program is not too entirely in BASIC, it must certainly feel because only that which must move does so.

The ground was black and yellow bands of varying thicknesses about Buck alternated by to create perspective.

It is possible for Buck's craft to leave your line of sight, achieved by AI which is AI characters long and is always present in the space. It is the rate that the number of characters displayed is determined by the right and left cursor keys and by the random factor.

The following craft, in part of the craft, is to displayed only when along the line of move move.

To make other game more likely, you could add the game with the 1000. You could also add another enemy spacecraft.

The user-defined graphics A-D enemy spacecraft, E has the ground, F-H the city, I and J atmospheric systems, K and L have tools.

SPECTRUM PROGRAM

```

121 IF X=5 THEN LET Y=1
122 IF X=12 THEN LET Y=14
123 PRINT AT 2.1, PAPER 6, INN
124 GO TO 2.7
125 IF INKEY="5" AND 3+X=12 THEN
126 LET Y=Y+1 GO TO 2.10 PRINT AT
127 2.1, PAPER 1, INN 5, DUES 1, "5"
128 GO TO 2.2
129 GO TO 2.2
130 LET Y=5
131 PAPER 3 INN 6
132 LET Y=15 FOR Y=15 TO 20
133 REPEAT 500, Y PRINT AT 2.1,
134 "Y" AT 2.1, "Y" AT 2.1, "Y"
135 LET Y=Y+1 LET Y=Y+1
136 REPEAT 500, Y PRINT AT 2.1
137 "Y" AT 2.1, "Y" MEAT
138 RETURN
139 PRINT AT 2.10, PAPER 1,
140
141 PRINT AT 2.2, PAPER 7, INN
142 "Y" AT 2.2, "Y" AT 2.2, "Y"
143 PRINT AT 2.7, INN 7, PAPER
144 "Y" AT 2.7, "Y"
145 PRINT AT 3.0, PAPER 1,
146 "Y" AT 3.0, "Y"
147 FOR Y=4 TO 11
148 PRINT AT 1.1, PAPER 1,
149
150 PRINT
151 RETURN

```

[illegible]

```

7  "1" AT 18.22, "T", BRIGHT 1, AT
18.22, "T", AT 18.22, "T", AT 18.22, "
1130 PRINT AT 8.5, OVER 1, "HUGH
HUGH-----HUGH-----HUGH
1140 FOR I=1 TO 81 STEP 2
1150 PRINT AT 8.5, OVER 1, "X", AT
1160 LET X=X+1
1170 LET X=X-1 FOR J=167 TO 165
STEP 2
1170 PLOT 8+J, DATA 32.8, PLO
T 247, DATA -39.8, LET J=J-2
+J=8 NEXT J
1180 FOR I=15 TO 18
1190 PRINT AT 1.18, OVER 1, "AGE
1200 NEXT I
1210 RETURN NEXT 1, OVER 2
1220 RETURN
1230 PLOT 2, 0
1240 DATA 241.8, DATA 8,171, DRA
W -201.8, DATA 8,-171
1250 PLOT 4, 4
1260 DATA 247.8, DATA 8,187, DRA
W -247.8, DATA 8,-187
1270 PLOT 6, 6
1280 DATA 243.8, DATA 8,183, DRA
W -243.8, DATA 8,-183
1290 RETURN
1311 INK 7 PLOT 167.5, DATA 8,
3, DATA 48.8, DATA 8,0
1312 PLOT 167.5, DATA 8,0, DRA
W 48.8, DATA 8,-3
1320 RETURN

```

```

0000 IF 100-25 OR 100-25 AND 300
0001 THEN LET 17=17.1, BEEP .30,
0002 IF 0/1000.9 THEN LET 100=
0003 AT 100/25
0004 FOR I=1 TO 25 STEP .001:
0005 LET 17=17.1
0006 IF 17=100 THEN INK 0, STOP
0007 GO TO 200
0008 PRINT AT 22.1, PAPER 1, "
0009
0010 GO TO 20
0011 FOR I=0 TO 5 STEP 0
0012 PRINT AT 2.0,
0013 LET I=INT (RANDOM
0014 PRINT AT 0.1, PAPER 1, "
0015
0016 LET XXX=0 LET Y=0 LET Z
0017
0018 IF X=0 THEN LET X=1
0019 IF Y=0 THEN LET Y=1
0020 PRINT AT 0.1, PAPER 1, INK
0021 1, 0 TO 99
0022 NEXT I
0023 GO SUB 1011, RETURN
0024 FOR I=0 TO 99 FLASH 1
0025 NEXT I
0026 PRINT AT 10.0, "ROUND ATTACK"
0027
0028 PRINT AT 11.1, "BY S.O.B."
0029 PRINT AT 7.14, INK 0, FLASH
0030 0, "NO"
0031 NEXT I
0032 LET I=0
0033 PRINT AT 10.0, "STAY"
0034

```



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How to perk up your Oric's graphics

Do your graphics look odd, lousy, tiny, lost their symmetry? We've said just that up with a POKE or two?

Was such an excellent investment in the Oric? I should have a bag in my lap, it is disappointing. Nevertheless, it is not that serious and there is a cure (A bus-meter board and two signs don't work).

The specifications for the Oric say that horizontal resolution is 385 pixels or 40 characters per

If you're grappling with graphics on your Oric, Alan Welch has some sound advice

The program on page 68 of the Oric manual can be used, with table 1 to redefine the graphics set by changing the first character in line 70 to A=40112. But, be warned, this program displays the characters/graphics in 8 x 8 block as stored in ROM and in eight lines across the screen, including the two left-hand columns that are supposed when the character is printed.

With a total of 76 graphics in 8 bytes each, that's 608 bytes in

ASCII CODE	POKE						
	0	1	2	3	4	5	7
20		56			0		0
28		7			0		
36		52			0		
44		0			56		
52		56			52		
60		7			56		
68		50			56		
76		0			7		
84		50			7		
92		7			2		
100		52			2		
108		0			52		
116		52			52		
124		7			52		
132		50			50		
140		56			56		
148		7			7		
156		50			50		
164		56			56		
172		7			7		
180		52			52		
188		56			56		
196		7			7		
204		50			50		
212		56			56		
220		7			7		
228		50			50		
236		56			56		
244		7			7		
252		52			52		
260		56			56		
268		7			7		
276		50			50		
284		56			56		
292		7			7		
300		52			52		
308		56			56		
316		7			7		
324		50			50		
332		56			56		
340		7			7		
348		52			52		
356		56			56		
364		7			7		
372		50			50		
380		56			56		
388		7			7		
396		52			52		
404		56			56		
412		7			7		
420		50			50		
428		56			56		
436		7			7		
444		52			52		
452		56			56		
460		7			7		
468		50			50		
476		56			56		
484		7			7		
492		52			52		
500		56			56		
508		7			7		
516		50			50		
524		56			56		
532		7			7		
540		52			52		
548		56			56		
556		7			7		
564		50			50		

Table 1 — a listing to be used to POKE correct graphics into the Oric, using the program on page 68 of the manual. The row number 0 to 7 should be input in reply to on-screen prompts

line, i.e. a character block at its push over.

The graphics are, however, stored with an eight pixel width and when printed on the screen lose its two left-hand columns. See Figure 1.

The standard graphics set is represented in a block format, each byte having binary place value.

The code for a particular symbol is the total of its place values plus 12, as in Figure 1. The ASCII character associated with this code number gives the graphic symbol when in BASIC "T" mode — see Figure 2.

The 8 x 8 block format gives us 24 grouping 64 different symbols (including blank) directly related to the ASCII codes.

The remaining 10 graphics can be defined as anything you wish and allows great scope for on-going extensions (e.g. pre-defined symbols, alarm, explosions, and so on).

check or alter and using the program would take well over an hour after you have entered the program.

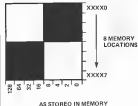
So it is advisable only to redefine those that are absolutely necessary. Better still, redefine from within a program.

That is why I am working on a program to redefine the standard graphics plus 33 special characters for use as an on-line or downloaded into a program.

Warning: Using this reset switch will delete any redefined character and replace them with the original set in ROM.



Figure 1 — how graphics are stored and displayed





AS PRINTED ON SCREEN

Figure 2—the standard graphics set is made up of six boxes, each of which is either full or empty



Figure 3—from the code for each square is calculated



CODE = 2 + 4 + 8 + (32)
= 46 (ASCII)

e.g. CURSOR→, ESC, I, E WILL PRINT

CODE = 1 + 4 + 32 + (32)
= 69 (ASCII E)



In the new era, will you be in the know?

We have come a long way since the home-computing industry really began with the ZX80.

Heretofore a new era in computing, it offered black and white, chunky graphics, a flickering screen, 1K of RAM, a touch-sensitive keyboard, with a free, built-in tape drive.

Offered for sale at £100, people snapped them up, eager to get into what promised to be the hobby of the future.

But the really important aspect of the ZX80 was that it proved to the world, what could be achieved with a little ingenuity and a lot of hard work.

Since that day, progress has been fast — very fast. It is now possible to buy a microcomputer with colour, sound, hi-res graphics, moving key keyboard, fast cassette storage and more than 40K of usable random access memory for under £120.

If the car industry had progressed at this speed, automobiles would be two pence each, and disposable. How low can we really go? How soon will it be before the ultimate software is produced, and what next?

Over the years, games software has improved to an amazing standard. Now, 3D games with astonishing sound-effects can be purchased for less than £10. Some of these games are more complex, and indeed faster than some of their arcade counterparts.

Games today have to be more than just shoot-until-you-der, like Space Invaders, or Pacman.

Today games must have a goal, whether the game is Zaxxon, Proctorator, or a game of the adventure genre, such as Philippon's Quest, Vallaio or The Hobbit. Standards are improving at an amazing rate.

However, that cannot go on forever, and ultimately new ways of using computers must be found. Perhaps, instead of a high simulator program, the computer will interface to a radio-controlled plane, with a built-in processor and microcamera, and the simulations will get closer to reality. But how real can a simulator be?

Indeed, the computer house will be looking for new ways to amuse themselves. Already, a random can be purchased for under £30, or a complete desktop terminal peripheral for under £100.

Very soon the society we live in will be virtually run by computers. However, it will not be controlled by computers, it will be controlled by those with enough knowledge to program or reprogram these computers, and perhaps there won't all be teenage hackers.

OK, so the American Defense Computer is probably very safe, but what about the many other computer systems that might not be quite so safe? What games is a stark warning of what could happen, but many will agree it. Perhaps almost as many who scorn the idea of ever landing on the moon.

David Harrison
School 514 & Teenage Hacker
Bergin 554, West Sussex

■ This space is for you to vent off about the main area, to present thoughts or fact statements. Share your views by writing them to Paul Lipman, Options, Home Computing Weekly, 145 Charing Cross Road, London WC2H 9JE. Please include your occupation and your interest in computing.

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 12. **SKILLS** (Technical, Soft)
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**CASCADE
SOFTWARE**

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Figure 1

SEE US AT THE CONTACT US BOOTH

TI-99/4A PROGRAM

```

700 LET RM="YOUR SCORE="
750 LET PGM=1
800 LET K=1
810 GOSUB 2900
820 LET RM=STR$(SC)
830 LET PGM=12
840 LET K=1
850 GOSUB 2900
860 CALL KEY(3,K,5)
870 IF S=0 THEN 880
880 IF K=09 THEN 910
890 IF K=08 THEN 1020
900 IF K=03 THEN 1110
910 IF K=03 THEN 1200
920 GOTO 940
930 REM MOVE RIGHT
940 LET CLR=CLR+1
950 IF CLR=32 THEN 1000
960 CALL HOME(RM,CLR+1,120)
970 GOSUB 1250
980 GOSUB 1420
990 GOTO 960
1000 LET CLR=CLR+1
1010 GOTO 960
1020 REM MOVE DOWN
1030 LET ROW=ROW+1
1040 IF ROW=23 THEN 1090
1050 CALL HOME(RM+1,CLR,120)
1060 GOSUB 1250
1070 GOSUB 1420
1080 GOTO 960
1090 LET ROW=ROW+1
1100 GOTO 960
1110 REM MOVE UP
1120 LET ROW=ROW-1
1130 IF ROW=2 THEN 1180
1140 CALL HOME(RM+1,CLR,120)
1150 GOSUB 1250
1160 GOSUB 1420
1170 GOTO 960
1180 LET ROW=ROW-1
1190 GOTO 960
1200 REM MOVE LEFT
1210 LET CLR=CLR-1
1220 IF CLR=1 THEN 1270
1230 CALL HOME(RM,CLR+1,120)
1240 GOSUB 1250
1250 GOSUB 1420
1260 GOTO 960
1270 LET CLR=CLR+1
1280 GOTO 960
1290 REM MOVEMENT+SCORE+CHECKS
1300 CALL GARM(RM,CLR,5)
1310 IF S=32 THEN 1320
1320 IF S=15 THEN 1000
1330 IF S=144 THEN 2000
1340 CALL HOME(RM,CLR,34)
1350 CALL SOUND(100,-3,0)
1360 CALL SOUND(150,-5,15)
1370 CALL HOME(RM,CLR,33)
1380 CALL SOUND(100,2000,3)
1390 CALL SOUND(-30,2000,0)
1400 RETURN
1410 REM STARTIC
1420 LET GOO=INT(23*RD+1)
1430 LET PPP=INT(32*RD+1)
1440 IF GOO=1 THEN 1420
1450 CALL GARM(GOO,PPP,5)
1460 IF S=32 THEN 1420

```

```

1470 IF S=144 THEN 2420
1480 CALL HOME(GOO,PPP,150)
1490 CALL SOUND(10,-3,0,110,0)
1500 RETURN
1510 REM HIT PHOTON (G)
1520 FOR C=1 TO 5
1530 CALL COLOR(1,10,1)
1540 CALL SOUND(100,-7,0)
1550 CALL COLOR(1,3,1)
1560 CALL SOUND(100,-5,0)
1570 NEXT C
1580 LET RM="YOU FELL INTO A PHOTON"
1590 LET PGM=5
1600 LET K=11
1610 GOSUB 2900
1620 LET RM="GENERATING MODULE...."
1630 LET PGM=3
1640 LET K=12
1650 GOSUB 2900
1660 REM HIGH SCORE CHECK
1670 IF L=H THEN 1690 ELSE 1700
1680 LET H=S
1690 GOTO 1660
1700 IF S=H THEN 2000
1710 REM END ROUTINE
1720 LET RM="ANOTHER GAME?"
1730 LET K=10
1740 LET PGM=5
1750 GOSUB 2900
1760 LET RM=H
1770 LET K=10
1780 LET PGM=10
1790 GOSUB 2900
1800 LET RM="IF YES KEEP Y PRESSED..."
1810 LET K=10
1820 LET PGM=5
1830 GOSUB 2900
1840 CALL KEY(3,K,5)
1850 IF S=0 THEN 1860
1860 IF K=09 THEN 100
1870 END
1880 REM HIT STARTIC
1890 LET CLR=1
1900 LET CLR=1
1910 FOR C=1 TO 14
1920 LET CLR=CLR+1
1930 CALL COLOR(1,CLR,CLR+1)
1940 CALL SOUND(100,-7,0,200,0)
1950 CALL SOUND(100,-7,0,200,5)
1960 NEXT C
1970 CALL COLOR(1,1,1)
1980 CALL SOUND(100,200,0)
1990 LET RM="YOU CAUSED A STARTIC"
2000 LET PGM=5
2010 LET K=11
2020 GOSUB 2900
2030 LET RM="OVERLOAD~~~~~"
2040 LET PGM=5
2050 LET K=12
2060 GOSUB 2900
2070 GOTO 1070
2075 REM COLLECT SLIME
2080 FOR C=1 TO 5
2090 LET S=S+S*500
2100 CALL SOUND(10,540,0)
2110 NEXT C
2120 CALL HOME(RM,CLR,33)
2130 CALL HOME(RM,CLR,34)
2140 LET SC=SC+1

```

TI-99/4A PROGRAM

```

2150 IF S=0000 THEN 190
2160 LET H=STR$(S)
2170 LET P=H*12
2180 LET K=1
2190 GOSUB 2000
2200 IF S=0000 THEN 0=0
2210 LET S=0+10
2220 GOTO 840
2230 REM MASTER CARD
2240 LET P=H*2
2250 LET S=5
2260 FOR C=1 TO 3
2270 LET H="I COLLECTORH="
2280 GOSUB 2000
2290 CALL COLOR(15,15,1)
2300 CALL COLOR(15,8,1)
2310 LET S=K+1
2320 NEXT C
2330 LET P=H*3
2340 LET K=15
2350 LET H="COPYRIGHT FARK O'CONNER..."
2360 GOSUB 2000
2370 LET H="DO YOU WANT INSTRUCTIONS?"
2380 LET P=H*5
2390 LET K=20
2400 REM INSTRUCTIONS
2410 GOSUB 2000
2420 LET H="Y OR N..."
2430 LET K=25
2440 LET P=H*5
2450 GOSUB 2000
2460 CALL KEY(3,K,0)
2470 IF K=0 THEN 2500
2480 IF K=78 THEN 2490 ELSE 2420
2490 RETURN
2500 CALL CLEAR
2510 PRINT "YOU ARE DEEP INSIDE "
2520 PRINT "THE COUNTRY'S MOUNTAIN"
2530 PRINT "THERMO-NUCLEAR PHOTONIC"
2540 PRINT "P.P.H GENERATING PLANT"
2550 PRINT
2560 PRINT "YOUR JOB IS TO RECOVER"
2570 PRINT "THE LOST ELECTRIC GRID"
2580 PRINT "COLLECTING ALL THE"
2590 PRINT "LOST ATOMIC BLIND WHICH"
2600 PRINT "GATHERED ON THE GRID"
2610 PRINT "IN LITTLE BLUE FILES."
2620 PRINT
2630 PRINT "ALSO COLLECTING ON THE GRID"
2640 PRINT "ARE HIGH VOLTAGE STATIC"
2650 PRINT "PARTICLES WHICH MUST BE"
2660 PRINT "WASSED AT ALL COSTS"
2670 REM T "AND ARE WHITE."
2680 PRINT
2690 PRINT "PRESS ANY KEY FOR MORE....."
2700 CALL KEY(3,K,0)
2710 IF S=0 THEN 2700
2720 CALL CLEAR
2730 PRINT "POINTS TO REMEMBER ARE....."
2740 PRINT
2750 PRINT
2760 PRINT
2770 PRINT "1. YOU CONTROL THE HAW"
2780 PRINT "WITH THE CURSOR KEYS"
2790 PRINT
2800 PRINT "2. THE GRID IS 100 FT. ABOVE"
2810 PRINT "THE PHOTON GENERATING UNITS"
2820 PRINT "SO DON'T RUN OFF"

```

```

2830 PRINT
2840 PRINT "3. POINTS ARE GIVEN FOR"
2850 PRINT "EACH POLE OF BLIND YOU "
2860 PRINT "COLLECT"
2870 PRINT
2880 PRINT "4. YOU GET A NEW GAME EVERY"
2890 PRINT "20 POINTS."
2900 PRINT
2910 PRINT "PRESS R TO REPORT"
2920 PRINT "FOR P TO PLAY"
2930 CALL KEY(3,K,0)
2940 IF S=0 THEN 2990
2950 IF K=40 THEN 2960
2960 GOTO 840
2970 REM PRINT SUBROUTINE
2980 FOR C=0 TO LEN(H)
2990 CH=ASC(STR$(H C))
3000 CALL HOMER(K,P=H,C)
3010 CALL SOUND(100,3000,0)
3020 CALL HOMER(K,P=H,C)
3030 CALL HOMER(K,P=H,C)
3040 NEXT C
3050 RETURN

```

```

3060 REM NEW HIGH SCORE
3070 CALL SCREEN(12)
3080 CALL SOUND(1,7,7)
3090 CALL SOUND(100,200,0,300,0)
3100 CALL SOUND(100,200,0,300,0)
3110 CALL SOUND(100,300,0,300,0)
3120 LET H="A NEW HIGH SCORE"
3130 LET K=12
3140 LET P=0
3150 GOSUB 2000
3160 LET K=0
3170 CALL CLEAR
3180 PRINT "WHAT IS YOUR NAME ? "
3190 CALL COLOR(1,12,12)
3200 INPUT "UP TO 14 LETTERS" H
3210 IF LEN(H)>14 THEN 3200
3220 CALL CLEAR
3230 GOTO 1700

```



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There are other government entities, however, that have been successful in their efforts to improve the lives of the nation's poorest children and their communities. The program at the JMC, for example, has been successful in increasing the reading level of its students, increasing the rate at which the students graduate from high school, and increasing the number of students who go on to college. The program at the JMC has also been successful in increasing the number of students who are employed after graduation. The program at the JMC has also been successful in increasing the number of students who are employed after graduation.

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As we begin to dig for the information we need, we notice that the company's website is not very user-friendly. The navigation is confusing, and the information is not easy to find. We also notice that the company's website is not very up-to-date. The information is outdated, and the design is old-fashioned. We also notice that the company's website is not very secure. The information is not protected, and the design is not secure.

Downloaded from <http://ajphaphysocpharm.sagepub.com/>

It is quite common, however, for CFCs, their derivatives or their use to be listed on the Montreal Protocol, the global agreement, to deal with the harmful effects of ozone-depleting substances. The Montreal Protocol is one of the most successful international agreements on the protection of the environment.



**No socks—
Plenty of surprises!**

[illegible]

Activity: _____

Only following-up on the first 20. For instance, the 10th anniversary of the 9/11 attacks was highlighted in the 10th issue of the journal. The 10th anniversary of the 9/11 attacks was highlighted in the 10th issue of the journal. The 10th anniversary of the 9/11 attacks was highlighted in the 10th issue of the journal.

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The new *g* gene, *g*24g200, showed 80% sequence identity to *g*24g100 and was also found in *g*24g100-expressing cells by electron-microscopy.

Major findings: a different transmembrane form of the *g* gene exists than previously known (longer cytoplasmic tail, but not as fully transmembrane as *g*24g100/COPV, NCOR). Found in *g*24g100-expressing cells by electron-microscopy.

For further information, see <http://www.ncbi.nlm.nih.gov/Genbank/Genbank.html>



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Two-fold multi-passages in 2 cell/2 embryos. 1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. 31. 32. 33. 34. 35. 36. 37. 38. 39. 40. 41. 42. 43. 44. 45. 46. 47. 48. 49. 50. 51. 52. 53. 54. 55. 56. 57. 58. 59. 60. 61. 62. 63. 64. 65. 66. 67. 68. 69. 70. 71. 72. 73. 74. 75. 76. 77. 78. 79. 80. 81. 82. 83. 84. 85. 86. 87. 88. 89. 90. 91. 92. 93. 94. 95. 96. 97. 98. 99. 100. 101. 102. 103. 104. 105. 106. 107. 108. 109. 110. 111. 112. 113. 114. 115. 116. 117. 118. 119. 120. 121. 122. 123. 124. 125. 126. 127. 128. 129. 130. 131. 132. 133. 134. 135. 136. 137. 138. 139. 140. 141. 142. 143. 144. 145. 146. 147. 148. 149. 150. 151. 152. 153. 154. 155. 156. 157. 158. 159. 160. 161. 162. 163. 164. 165. 166. 167. 168. 169. 170. 171. 172. 173. 174. 175. 176. 177. 178. 179. 180. 181. 182. 183. 184. 185. 186. 187. 188. 189. 190. 191. 192. 193. 194. 195. 196. 197. 198. 199. 200. 201. 202. 203. 204. 205. 206. 207. 208. 209. 210. 211. 212. 213. 214. 215. 216. 217. 218. 219. 220. 221. 222. 223. 224. 225. 226. 227. 228. 229. 230. 231. 232. 233. 234. 235. 236. 237. 238. 239. 240. 241. 242. 243. 244. 245. 246. 247. 248. 249. 250. 251. 252. 253. 254. 255. 256. 257. 258. 259. 260. 261. 262. 263. 264. 265. 266. 267. 268. 269. 270. 271. 272. 273. 274. 275. 276. 277. 278. 279. 280. 281. 282. 283. 284. 285. 286. 287. 288. 289. 290. 291. 292. 293. 294. 295. 296. 297. 298. 299. 300. 301. 302. 303. 304. 305. 306. 307. 308. 309. 310. 311. 312. 313. 314. 315. 316. 317. 318. 319. 320. 321. 322. 323. 324. 325. 326. 327. 328. 329. 330. 331. 332. 333. 334. 335. 336. 337. 338. 339. 340. 341. 342. 343. 344. 345. 346. 347. 348. 349. 350. 351. 352. 353. 354. 355. 356. 357. 358. 359. 360. 361. 362. 363. 364. 365. 366. 367. 368. 369. 370. 371. 372. 373. 374. 375. 376. 377. 378. 379. 380. 381. 382. 383. 384. 385. 386. 387. 388. 389. 390. 391. 392. 393. 394. 395. 396. 397. 398. 399. 400. 401. 402. 403. 404. 405. 406. 407. 408. 409. 410. 411. 412. 413. 414. 415. 416. 417. 418. 419. 420. 421. 422. 423. 424. 425. 426. 427. 428. 429. 430. 431. 432. 433. 434. 435. 436. 437. 438. 439. 440. 441. 442. 443. 444. 445. 446. 447. 448. 449. 450. 451. 452. 453. 454. 455. 456. 457. 458. 459. 460. 461. 462. 463. 464. 465. 466. 467. 468. 469. 470. 471. 472. 473. 474. 475. 476. 477. 478. 479. 480. 481. 482. 483. 484. 485. 486. 487. 488. 489. 490. 491. 492. 493. 494. 495. 496. 497. 498. 499. 500. 501. 502. 503. 504. 505. 506. 507. 508. 509. 510. 511. 512. 513. 514. 515. 516. 517. 518. 519. 520. 521. 522. 523. 524. 525. 526. 527. 528. 529. 530. 531. 532. 533. 534. 535. 536. 537. 538. 539. 540. 541. 542. 543. 544. 545. 546. 547. 548. 549. 550. 551. 552. 553. 554. 555. 556. 557. 558. 559. 560. 561. 562. 563. 564. 565. 566. 567. 568. 569. 570. 571. 572. 573. 574. 575. 576. 577. 578. 579. 580. 581. 582. 583. 584. 585. 586. 587. 588. 589. 590. 591. 592. 593. 594. 595. 596. 597. 598. 599. 600. 601. 602. 603. 604. 605. 606. 607. 608. 609. 610. 611. 612. 613. 614. 615. 616. 617. 618. 619. 620. 621. 622. 623. 624. 625. 626. 627. 628. 629. 630. 631. 632. 633. 634. 635. 636. 637. 638. 639. 640. 641. 642. 643. 644. 645. 646. 647. 648. 649. 650. 651. 652. 653. 654. 655. 656. 657. 658. 659. 660. 661. 662. 663. 664. 665. 666. 667. 668. 669. 670. 671. 672. 673. 674. 675. 676. 677. 678. 679. 680. 681. 682. 683. 684. 685. 686. 687. 688. 689. 690. 691. 692. 693. 694. 695. 696. 697. 698. 699. 700. 701. 702. 703. 704. 705. 706. 707. 708. 709. 710. 711. 712. 713. 714. 715. 716. 717. 718. 719. 720. 721. 722. 723. 724. 725. 726. 727. 728. 729. 730. 731. 732. 733. 734. 735. 736. 737. 738. 739. 740. 741. 742. 743. 744. 745. 746. 747. 748. 749. 750. 751. 752. 753. 754. 755. 756. 757. 758. 759. 760. 761. 762. 763. 764. 765. 766. 767. 768. 769. 770. 771. 772. 773. 774. 775. 776. 777. 778. 779. 780. 781. 782. 783. 784. 785. 786. 787. 788. 789. 790. 791. 792. 793. 794. 795. 796. 797. 798. 799. 800. 801. 802. 803. 804. 805. 806. 807. 808. 809. 810. 811. 812. 813. 814. 815. 816. 817. 818. 819. 820. 821. 822. 823. 824. 825. 826. 827. 828. 829. 830. 831. 832. 833. 834. 835. 836. 837. 838



Abstract

There are currently available programs which calculate virtually any load with 3D geometry. These are not for the faint of heart. For a detailed discussion of how to design a structure to resist a 3D wind load, see the book *Wind Engineering* by Robert H. Scanlon, Jr., published by McGraw-Hill, 1980. The book is available in paperback for \$14.95.

[illegible]

English (see below), Japanese (see below) and Swedish (see below) children have been shown to produce a variety of different types of questions in English, as well as the English of other world languages. The question is whether the production of different types of questions is also language-specific and, if so, how it is related to the development of the language.



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After Mustang and other department stores launched the Design + Development campaign, we made a decision that we first sent our designers and clients to collect some feedback. ■ www.pager.com posted our initial findings.



1. ☐ **General Information**
 2. ☐ **Financial Information**
 3. ☐ **Operational Information**
 4. ☐ **Legal Information**
 5. ☐ **Human Resources Information**
 6. ☐ **Marketing Information**
 7. ☐ **Research and Development Information**
 8. ☐ **Information Systems**
 9. ☐ **Other**

Two ongoing education programmes for staff at the hospital offer staff access to the curriculum. The programme for all employees has been created by Robert Gaudin, MD, PhD.

- **Education** • Curriculum • C. and P. •
- **Education** • P. and P. • C. and P. •

As you probably know, high resolution graphics are possible on the Commodore 64. You may have seen them in commercial games, or at Commodore demonstrations.

But the trouble is, the BASIC supplied with the 64000 does support this feature. In fact the trick of the matter is that the 64 can have six different modes of screen operation, five of which the operating system does not support. So you can't write programs in BASIC that have high resolution graphics.

The following subroutines will help in the writing of programs using the Commodore 64's highest resolution graphics mode, which gives 320 by 200 dots and 16 colors on the screen at once.

On other computers, having 10% of screen would use up a lot of your memory. But the Commodore 64 has 64K of memory, and by using a page rendering method the graphics screen will take up one user memory address occupies the same memory space as BASIC.

Here, functions are called by abbreviations that must be COMPILED first via BASIC. Before a routine is called, however, some variables also need to be set. In fact many variables are used by these routines, and it is wise to avoid them so they may contain your program or data the system. Here is a list of variables to avoid and their functions:

SC holds the memory location of the start of the first screen address in memory.

CL holds the sum address of the color map in memory.
 QQ,QQP,AL,TC,AC,SR,VR, VV, are all temporary variables to use throughout the routines.

Subroutines

There are four subroutines, the line numbers in the program listing where they occur, for the variables that need to

Here's how to make a new resolution

Give your Commodore 64 programs that professional hires look by following Mike Roberts' guidelines

be set apart early in them, and how they work.
Set graphics screen, line 100. This simply sets the screen into the graphics mode of operation.
Set text mode, line 200. This sets the screen back into the mode that the 64 usually has in operation.

Clear graphics screen, line 300 to 399. This clears the graphics screen of all graphics and sets the background color to that of the normal text mode (a memory location 5034).

Copy text screen to graphics screen. This will transfer the contents of the text screen and dump it on the graphics screen. Lines 400 to 499. If CS is not 0 then the copy will be made in lower case but if variable CS is 0 then the copy will be in upper case.
Plot point on graphics screen, line 500 to 599. This will plot a point on the graphics screen at specified coordinates. Variables that need to be set in memory to the routines are as follows:

FC: Foreground Color (a number from 0 to 15)

BC: Background Color (a number from 0 to 15)

Point: text to graphics screen, line 600 to 699. This will print the text using XL on the graphics screen. Color, underline, and attributes are available on the variables that need to be set will show.

X, X, are coordinates on the range 0 to 319. Origin is top left.

Y, Y are coordinates on the range 0 to 199.

FC: Foreground Color, a number between 0 and 15.

BC: Background Color, a number between 0 and 15.

CS: Circle change. When CS is 1 then the string will be printed on lower case and when it is 0 the string will be printed in upper case.

HL: Give double height characters when set to 1 and normal characters when set to 0. HL is what set to 1 that will underline the text being printed.

Printing code for page switch and plot, line 700 to 799. This must be run before any use of the plot routine in the computer will work. It only needs to be run once. The machine code starts at location 49153, but is totally relocatable.

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Page 30 HOME COMPUTING WITHOUT A SCREEN, 1983

If you've seen the Telmate mainframes, you will appreciate they are an excellent way of putting a message across to the viewing public. Your home computer will be used in much the same way.

Microcomputer displays are being used in a few cases to advertise in shop windows, usually to sell the home computer on display.

But there is one reason why this form of advertising cannot be used to sell other products. Also, it could be used to advertise your club or society, or private an individual special birthday card display for someone in the family.

Whatever application you may have, this article shows you how to produce, save, and display multi-colored pictures on the Oric.

Pictures can be created on the Oric in TEXT mode simply by typing the characters from the keyboard outside a program. This is the method I use, although a short program is held in RAM to save your pictures once created.

The same picture in part machine code. The two loaders for this machine code routine appear in Figure 1.

Type at the listing, save it on tape, then RUN or put in the machine code. Then remove the two loaders with NEW, and type at the listing in Figure 2.

You can store up to 25 pictures on the Oric with this routine. Before starting to draw any picture, you must assign to it a number, to define an external storage position in RAM. Type RUN 500, and enter a number (1 to 25). On completion, the screen will clear, and the program will stop. At this stage you can start drawing your display.

First, are global INK and PAPER colors with direct commands, then clear the screen once more.

Move the cursor around the screen using the cursor control. Look either side of the space bar, and type in characters as required. When you finish a character, it not only appears on the screen, but also goes into the input buffer. Once there are 16 characters in the input buffer, you will get a warning BING. Add two more characters, and the buffer will overflow and a subsequent RETURN occurs.

This need be of no concern, except that you will need to remove the end of input marker by overtyping with space.

You can add as many as 16 to the screen, followed by one of the characters listed in appendix C of the handbook.

The convention is to use a background color attribute on the left hand screen column, and

Take your seat for the Oric picture show

Use these routines and you could even create your own moving pictures. Oric advice from HCW regular David Nowotnik

Figure 1 — machine code two loaders

```
10 HITMEM #1500
20 X=#1500
30 REPORT
40 PEROV
50 FORK=1
60 X=X+1
70 UNTILY=255
80 DINT#80, #85, #86, #76, #86, #88
90 DINT#81, #75, #91, #76, #86, #88
100 DINT#82, #85, #76, #85, #76, #86
110 DINT#78, #80, #F1, #80, #FF
```

Figure 2 — screen save routine

```
10 PRINTCHR$(13); " "
20 DO#E121, #8888
30 DO#E123, #8888; #400
40 CALL#1500
50 CLS; #E120
60 DO#E121, #8888; #400
70 DO#E123, #8888
80 CALL#1500; #50F
900 INPUTT
910 DO#E#400, #1600; #2800; T-1
920 CLS
```

Figure 3 — picture display routine

```
5 TEXT
10 FORI=1TO#
20 DO#E123, #8888
30 DO#E121, #1600, #80+I-1
40 CALL#1500
50 WRIT#400
60 NEXTI
70 GOTO 10
```

the foreground attribute on column 0. Other attributes for colors, double height, thick, and alternative character set can be mixed elsewhere on the screen — you will have to experiment with these yourself with a bit of help.

In moving the cursor around the screen, make sure that you do not try to move it off the top or bottom of the screen, or the whole display will scroll.

Once you have completed your picture, take the cursor to the top left screen position, and press DEL for 20-30 seconds to make sure the input buffer is empty.

Then take the cursor down one line in which the first three character positions are empty (due to the screen wrap). Turn the cursor off by pressing simultaneously CTRL and Q. Enter RUN, and press RETURN, and the picture is stored in RAM. The screen will clear for a moment and your picture should reappear.

The machine code routine will actually copy your picture from its position in RAM to the display file.

Repeat the procedure to draw the number of displays required, then remove the screen save routine with NEW. Load the program lines in Figure 3, substituting the value 1 in line 18 with the number of pictures you have created.

Adjust the value of the WAIT command in line 30 in the delay required between the change in pictures. This routine will display your pictures at horizontal positions, until you press CTRL C to stop it.

Before you use it, save your machine code and display and program — just in case.

First, use CSAYO "DISPLAY" A=1-160, E=9800 to save your display and machine code, then CSAYO "DISPLAY" A=70 to save the program. When finished, insert the top of RAM with the direct command HINEM=1500, then use CLOAD " " to save to load data and the program.

When the program is loaded, it should start automatically, saving your screen displays with your selected delay.

If you have nothing to advertise, or no pictures to contribute, then you may care to experiment with the routine of moving pictures.

The machine code screen refresh is so fast it could be considered instant. So, with a short WAIT in line 30, the rapid turnover of images could cause the effect of movement.

Top Ten programs for the Dragon-32

- | | | |
|----|------------------------|---------------|
| 1 | The Kiss | Microdel (2) |
| 2 | Progger | Microdel (2) |
| 3 | Amind, Amind | Microdel (4) |
| 4 | Select War | Microdel (2) |
| 5 | Shuttle | Microdel (7) |
| 6 | Night Flight | Salemstar (3) |
| 7 | Planet Invasion | Microdel (8) |
| 8 | Outdoor Soccer Workout | Microdel (10) |
| 9 | Champion | Potlatch (1) |
| 10 | Ring of Darkness | Salemstar (3) |

Compiled by Scott. Figures in brackets are last week's positions.

Top Ten programs for the Z801

- | | | |
|----|-------------------|-----------------|
| 1 | Space Raiders | Sandair (1) |
| 2 | Esperance Island | Sandair (2) |
| 3 | Flight Simulation | Sandair (3) |
| 4 | Firearm Games | Sandair (4) |
| 5 | TK Games | Sandair (4) |
| 6 | Defender | Quicksilver (5) |
| 7 | Football Manager | Quicksilver (7) |
| 8 | Scoreline | Quicksilver (8) |
| 9 | Chess | Sandair (1) |
| 10 | Ship of Doom | Sandair (10) |

Compiled by Scott. Figures in brackets are last week's positions.

Top Ten programs for the VIC-20

- | | | |
|----|---------------------|-----------------|
| 1 | Amalia | Imagins (1) |
| 2 | Skyhawk | Quicksilver (2) |
| 3 | Cosmic Crunch (arc) | Commodore (4) |
| 4 | Wacky Wars | Imagins (5) |
| 5 | Catcha Snatcha | Imagins (6) |
| 6 | Gridrunner | Linnsoft (4) |
| 7 | Cosmoade | Sup-Byte (7) |
| 8 | Panic | Sup-Byte (8) |
| 9 | Sargon II Chess | Commodore (10) |
| 10 | Fluents | Imagins (3) |

Compiled by Scott. Figures in brackets are last week's positions.

Top Ten programs for the Spectrum

- | | | |
|----|------------------------|----------------------|
| 1 | Jet Pac | Ultimate (1) |
| 2 | Scrabble | Pain (1) |
| 3 | Flight Simulation | Pain (2) |
| 4 | Hansen and the Spiders | Pain/88, House (3) |
| 5 | Starshipman Tower | Richard Shepherd (3) |
| 6 | Hansen Goes Shopping | Pain/88, House (7) |
| 7 | Football Manager | Addictive (4) |
| 8 | The Hobbit | Melbourne House (5) |
| 9 | John Deere | Imagins (10) |
| 10 | Past | Ultimate (1) |

Compiled by W. H. Smith. Figures in brackets are last week's positions.

U.S. SCENE

64 'to use software for Apples'

Permitting users for owners of the Commodore 64 — you will soon be able to run Apple software, says a Minneapolis company.

Advanced Integrated Development has announced the Amulet, a \$199 board to allow the 64 to use about 18,000 programs that have been developed for the Apple II.

To get the board to operate, you must remove the 6502 chip from the 64, plug it into the Amulet, then plug the Amulet into the 6502 socket. The board should be easy to use. It will allow users to have no compression in use. The 64 will continue to operate normally, but will also be able to run programs developed for a Commodore Apple II. At a later date, the Commodore also drive will also be able to read Apple disks.

The device is not without its limitations. Users will not be able to write to the disk or Apple emulations mode will not use the same memory more than one time.

Furthermore, the software requiring an 80-column display will not run properly and will be able to take advantage of the extra features present in the new Apple IIe. The Amulet is very costly because the company does not want to affect the sale of the Apple II. Very much in these days of limited effect.

It would appear that the device may find its way into many classrooms and other applications where the cost of the Apple is prohibitive.

★★★★★

Have complete users — especially those with Tandy — will find it worth while writing for a variety from their people. Computerized Inc., 30 North Platte Road, Spring Valley, New York 10977, phone (914) 621-1118.

They offer very good prices, a 24-hour order line that you can call during 24 hours for new orders, and a 24-hour service back program as well they do.

When they will supply in software and books, although they do have limited types of hardware. They also sell a number of programs and books for other popular computers including the VIC-20 and Commodore 64, the Atari, Apple, PET, and so forth. There is a shop in the UK too, and will not sell all major credit cards.

Some of the software they offer seems very expensive. For example, the Commodore 64. There are five separate packages in this series, four priced \$99.95 each and a \$49.95. The first four cover mathematics, graphics, payroll, and inventory, the last is a complete ledger system. The series is designed to run with a set of line art computer forms for your printer.

Based on the their experience, they make the very simple cost great than the other major in all categories and offer complete users. After seeing a detailed description, I think it definitely offers great value for money. Write to them for their well-produced catalog No. 12.

★★★★★

RAMAX is a great add-on device for your VIC-20. It is a 256 word dual in-line memory module, an 8K RAM module, and a 16K RAM module. It enables the use of two extension connectors that are quite similar to the VIC-20's memory expansion connector. Using this device, you can switch diagonal memory address on or off, allowing you to use the device with any VIC plug-in peripheral.

Included in the package is 256 of RAM, the two extension connectors, a reset switch, a connector/memory light, fuse, and a diagnostic program. RAMAX runs at 170 MHz. A smaller version, imaginatively called RAMAX JR., which holds 128 of RAM is available for about \$10 less. Contact American Technology, 100 Lexington Avenue, Suite 501, Cambridge, MA 02116, (617) 452-1216 for more information.

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It started with a kissometer

Electronics can be put to some strange uses, as Dave Carlos found when he talked to Jim Gregory — the man behind Mr Micro



Mr Micro himself — Jim Gregory

Mr Micro is not only the name of a company but also an apt name for its founder Jim Gregory. The foundation of the firm was laid while he was still at school.

Jim became interested in electronics, he says, "at a time when transistors were just becoming available". "We used to make such things as kitescoops with all the strongest wire with bits that would snap."

This led Jim into an apprenticeship at electronic engineering, and a qualification to work as radio and defence engineer. As about this time he discovered games of the board variety, and soon he was hooked.

Jim stressed one called "Island Elcomen" which, he says, "had thousands of rules which needed a million pages to play it". Due to this complexity, he never managed to get the idea, and it was only later he realised that computers would be best for playing such games.

"At that time, computers were still a prohibited area which only the chosen were called. The ordinary man didn't realise how easy it was to use and program them," he recalls.

Jim's first program was written on a programmable calculator with only two words: "just like having a two line memory". It was a one trial program and the machine had so many instructions and needed of program storage at all.

"The operators had to key the program every time they used it. With early equipment like that, you learned to be very conservative in your programming. Now programmers who work for us here in my city had to overcome the fact that something cannot be done," Jim said.

In July 1980, he decided to start a business aimed at the new home computing market. My wife had a small machine and I would support it both properly. All we needed then was a name.

"We tried all sorts, before one day, while reading a Mr Micro book to my son, the name Mr Micro came to mind. It seemed to fit well so we used it, and, as we have already had a couple of letters by this name, others came along too."

The first product that Jim produced for a computer was a screen address programming aid for the PET which cost thousands of copies and encouraged him to think more about the new area, games and their use.

"The only games for the PET at the time were of the bang-bang, shoot about variety but I wanted to go into deeper mind-bending range games," he said. "That's how we came to be programming for the VIC, we decided to try to score the

first of British game for that microcomputer had to be a pre-release VIC from a friend's mother to do so."

The game, Gold Bank, was released in a pre-release and game leading to other and all producing ideas in the final solution. It was released in June 1980 and by Christmas had sold over a thousand copies. In February 81, someone cracked version 1.1 but Gold Bank II is still selling well and the price is still to be won.

This encouraged Jim and his to go into the business full time, and so they started to look

around for the money to do so. Jim recalled: "In our walks around the high street banks we heard some amazing things. One told us that they producers for the home in local companies would die in August 1982, another that they preferred to put their high risk capital in own risky enterprises, and yet another that they were not looking in the bank's way of England as it is a depressed area." Eventually we got what we needed, probably by negotiating the lower risk but also from a helpful bank."

Mr Micro now has several offices. There is the retail shop below the office in 49 Parkgate Lane, Swinton, Manchester, where I should count the number of different sources, much less the quantity of programs they stock.

There is the program publishing side and a retail laboratory venture with another group to develop a superior software protection device. So far all the "imports" have failed to break the copyright system. All that would say about it was, "No one copies a car because it is simply too expensive to do and it is what will prevent people from making the device too."

He also has plans to enter the educational market with a completely different approach. "One of the things that makes British great is the individuality of the schools and that is also what makes our education too hard so difficult."

"Unlike other countries there is no common curriculum and therefore providing software becomes impossible. We intend to use our software at the home, where a product must be unique, not to be used, so our programs will aim first to be great fun so that learning is a by-product."

On the game side, Jim likes to get new ideas and concepts. "Myerson Island" for example, usually 20 games at once, linked together by an adventure concept. Mr Micro provides a potential certificate to any time who completes it and has three tapes. "We are not to waste it, even that would game concept are so much in demand as we would prefer to try to take games to a different level," said Jim.

But believing that the public is not yet ready for new games concepts, Mr Micro has just launched three new titles for all types of machines. Gold Bank II, Frog and Humpty, they are all for action games.

Coming soon are dual program users, with a program for say a VIC 20 and one with the same game for the Commodore 64 or the other. "There will be better for a variety," Jim recalls. "Users will be able to keep the tapes when they upgrade, and for those who only have to work one type for both machines. We also hope to do some dual BBC - Electron tapes."

Jim believes that the new technological breakthroughs will be in the areas of speech recognition and systems coupled to video discs. As a game player and designer, for now Mr Micro stays in the range of home industry. Or as he prefers to put it, "the project is to be involved in 'mind-benders' for some time yet."

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